the A+W group (39%, 12%, 19% vs 22%, 39% and 39%, p = 0.003). 20 A pts vs only 4 A + W pts showed angina pectoris in the follow up (p = 0.011), while there was no significant difference in the occurrence of other morbid events. Thus, we conclude that A + W leads to a more favourable remodeling of the coronary tree after thrombolysis, facilitating thrombus regression and improving angina symptoms. The effects on other clinical events should be investigated in a large trial.

## 973-67 The Value of Immediate Coronary Angiography With Primary PTCA Standby in the Triage and Treatment of Acute Myocardial Infarction at Community Hospitals Without Heart Surgery: Experience in 305 Cases

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Recent studies support the value of immediate coronary angiography in risk stratification and triage of patients with acute myocardial infarction [AMI]. Early knowledge of coronary anatomy can identify patients [pts] at high risk who require early bypass surgery, and can spare unnecessary thrombolytic therapy in pts who have patent vessels after aspirin and heparin, occlusion of minor branches, or mistaken diagnosis. These benefits may enhance the therapeutic value of primary PTCA. We examined the outcomes of immediate coronary angiography in 305 consecutive pts with suspected AMI who underwent emergent cath with PTCA standby at two community hospitals without on-site bypass surgery. CHF was present in 37%, 15% presented in shock, and 9% in ventricular fibrillation. Only 25% were "low-risk" (age < 70, EF > 45%, 1–2 vessel disease); 36% were > 65 yo; 31% were women.

*Results:* PTCA was performed in 217 pts (71%). Procedure success rate was 94%, median time to reperfusion 93 min, reocclusion rate 6%, reinfarction rate 3.7%, in-hospital mortality 6.8% (2.9% in non-shock pts). No pt needed emergency CABG because of PTCA complications. Patent arteries (TIMI-3 flow) were not dilated. Of the 88 pts who did *not* have PTCA, 81 (27% of the entire group) *would not have benefited from lytic therapy:* the artery was patent on the first angiogram in 50 pts and was a small or secondary vessel in 4; the diagnosis of AMI was discovered to be incorrect in 12, and 15 had life-threatening coronary anatomy that required immediate transfer (with IABP) for bypass surgery. 30% had bypass surgery within 24 h. Another 6 had lesions unsuitable for PTCA; intracoronary urokinase achieved patency in 3 of these. The in-hospital mortality of this no-PTCA group was 1.1%, including surgery. The *entire cohort* of 305 patients had an in-hospital mortality rate of 3.4% (shock mortality 22%, non-shock mortality 2.0%).

*Conclusion:* Immediate catheterization with PTCA standby in suspected AMI can be performed safely and effectively in community hospitals without cardiac surgery. Initial angiography enabled informed therapeutic decisions, including early selection of highest risk pts for bypass surgery and avoidance of the risk and expense of lytics in an important fraction of the population.

## 973-68 Cardiogenic Shock After Acute Myocardial Infarction: Successful Bridge to Transplantation With the Implantable Left Ventricular Assist Device

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Acute myocardial infarction (AMI) complicated by cardiogenic shock is frequently fatal. In this setting, implanting LVADS as a bridge to transplantation is thought to be contraindicated because of small LV chamber size and friable myocardial tissue. From December, 1992 to July, 1995, 9 patients in cardiogenic shock at a mean of 6 days after an AMI received a HeartMate LVAD. The mean patient age was 49 yrs and 5 (55%) were female. Large anterior or anterior-lateral infarctions were present in all pts; 4 (44%) required CPR, 8 (89%) were on an IABP and 3 (33%) were supported by ECMO. Satisfactory LVAD inflow cannula position was confirmed by intraoperative TEE in all pts. There were no bleeding complications or ventricular disruptions secondary to LV apical cannulation. One pt with RV failure required RVAD support and two pts with severe pulmonary edema were managed by veno-veno ECMO (1 pt) and RVAD-ECMO (1 pt). Hemodynamics improved significantly in all pts.

| | Pre-LVAD | Post-LVAD | p Value |
|---|---|---|---|
| CI (L/min/m$^2$) | 1.8 ± 0.43 | 2.9 ± 0.68 | 0.002 |
| LAP (mmHg) | 22 ± 5.1 | 13 ± 3.4 | 0.008 |
| RVEF (%) | 22 ± 5.0 | 38 ± 11 | 0.031 |

Eight pts (89%) survived and were discharged from the ICU at a mean of 8 days (range:3–30). The one death from multiple organ failure and all major complications occurred in pts who had pre-LVAD CPR and needed an RVAD or ECMO. All pts were in NYHA FC I or II before transplant after a mean of 97 days (range:39–144) of support. All transplanted patients are alive. We believe the implantable LVAD can be used to treat cardiogenic shock after an AMI in young moribund patients provided that support is initiated before other organ injury.

# 974 Acute Myocardial Infarction: Predictors of Outcome

Tuesday, March 26, 1996, 3:00 p.m.–5:00 p.m.
Orange County Convention Center, Hall E
Presentation Hour: 3:00 p.m.–4:00 p.m.

## 974-54 RECPAM (RECursive Partition and AMalgamation), a Novel Statistical Approach for Early Prediction of Outcome in Patients With Acute Myocardial Infarction

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Aim of this study was to evaluate the ability of a new statistical approach to predict in-hospital outcome in pts with acute myocardial infarction (AMI). In pts enrolled to GISSI-2 study all the variables available at admission to CCU were used. In-hospital mortality was chosen as end-point. This method identifies homogeneous and distinct subgroups with respect to pre-specified criteria. The algorhythm subdivides the population using the variables in a hierarchical approach, identifying for every division the variable and the cut off that most efficiently creates two subgroups with different outcome rate. The terminal subgroups are successively merged to create a set of classes statistically distinct with respect to the primary end-point. The following variables were submitted to the RECPAM algorhythm: infarction site, Killip class, smoking habit, history of previous MI, hypercholesterolemia, hypertension, diabetes, age, gender, heart rate, blood pressure, familiar history of MI.

A total of 15 terminal subgroups were identified. In the lowest risk subgroup 4 events out of 1116 pts were recorded, while in the highest risk subgroup 226 events were recorded in 438 pts. After the amalgamation step RECPAM identified 7 classes with statistically different mortality. Compared with the lowest risk class, the six classes had an odd ratio of 5.4 (95%CI 3.0–9.8), 13.8 (95%CI 7.6–25.3), 22.0 (95%CI 12.0–40.2), 44.9 (95%CI 25.1–80.2), 91.5 (95% 50.7–165.0) and 208.6 (95%CI 114.8–379.0) respectively. In particular three subgroups in Killip 1 class had a statistically significant worse prognosis compared to one subgroup of pts who presented with Killip class 2 at entry.

In conclusion, RECPAM, using a tree structured algorhythm, was able to identify very efficiently the in-hospital prognosis of pts with AMI from the available variables at CCU entry.

## 974-55 Centralized Systematic Adjudication of Clinical Endpoints in Multicenter Trials of Acute Coronary Syndromes Identifies Patients At High Risk for Adverse Clinical Outcomes

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A centralized Clinical Events Committee (CEC) adjudicated suspected re-infarctions (reMI) that were identified by computerized triggers applied to case report form data in the GUSTO-IIa trial. We compared the clinical outcomes for patients with suspected reMI about whom the CEC and investigator agreed there was a reMI and for patients about whom the CEC and investigator disagreed there was a reMI with the following results:

| Outcome | Agreements | | Disagreements | |
|---|---|---|---|---|
| | Both 'No' | Both 'Yes' | CEC 'Yes' | CEC 'No' |
| 30-day Death | 15 (7%) | 20 (20%) | 4 (13%) | 14 (24%) |
| Recurrent Angina | 61 (31%) | 80 (80%) | 13 (43%) | 38 (64%) |
| Heart Failure | 22 (11%) | 26 (26%) | 4 (13%) | 9 (15%) |
| Shock | 14 (7%) | 21 (21%) | 1 (3%) | 9 (15%) |
| Total Patients* | 195 | 100 | 30 | 59 |

*Not all patients with reMI had one of these outcome events.

The CEC and investigator disagreed in 23% of the cases with suspected reMI. When both agreed that reMI occurred, patients with reMI had higher rates of adverse outcomes compared with patients without reMI. For cases with disagreements, the CEC identified 36 cases meeting the definition for reMI that had intermediate rates for adverse events. The investigators identified 59 additional reMIs not meeting strict criteria used by the CEC for reMI but associated with a high incidence of adverse outcomes.